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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/826,901	04/06/2001	Helmut Jakusch	P20740	6402

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EXAMINER

AHMED, SHEEBA

ART UNIT PAPER NUMBER

1773

DATE MAILED: 09/09/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/826,901	JAKUSCH ET AL.	
	Examiner	Art Unit	
	Sheeba Ahmed	1773	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 May 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-34 is/are pending in the application.
- 4a) Of the above claim(s) 17,20,24,25,28 and 29 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-5,7-16,18,19,21-23,26,27,30 and 34 is/are allowed.
- 6) ☒ Claim(s) 31-33 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. Claims 1, 17, 18, 20, 21, 23, 25, 27, and 29 have been amended in the above-identified application. New claims 31-34 have been added. Claims 1-34 are pending of which claims 17, 20, 24, 25, 28, and 29 have been withdrawn from consideration.

Claims 1-5, 7-16, 18, 19, 21-23, 26-27, and 30-34 are now under consideration.

Claim Objections

2. Withdrawn claims 28 and 29 are dependent on process claim 20 and incorrectly recite, "The magnetic recording medium as claimed in claim 20...." in their preamble.

Appropriate correction is suggested.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 31-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Munch et al. (US 5,641,355) in view of Inoue et al. (US 5,989,703).

Munch et al. disclose a process for making a magnetic recording medium having a nonmagnetic substrate and at least one magnetic applied thereon (Column 1, lines 5-

8). The process can be used to make a double-layer magnetic tape having two

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magnetic layers (Column 4, lines 60-68). Example 4 illustrates an arrangement having two magnetic layers. The lower layer comprises acicular chromium oxide having an H_c of 37 kA/m, carbon black and a polyurethane binder and the upper layer comprise magnetizable metal powder having an H_c of 133kA/m and a polyurethane binder. The upper layer has a thickness of 0.2 microns and the lower layer has a thickness of 1.5 microns (Column 5, lines 61-63).

Munch et al. do not teach that the lower layer comprises an isotropic magnetically soft pigment, which is selected from $\gamma\text{-Fe}_2\text{O}_3$, Fe_3O_4 , or a solid solution of these components, and has a mean crystallite size of less than 10 nm (or 6nm as recited in claim 5).

However, Inoue et al. disclose a process to make $\gamma\text{-Fe}_2\text{O}_3$ having a small crystallite size (*i.e., less than 30 nm and hence overlapping with the instantly claimed range*) and magnetism and use of such particles in a magnetic recording medium comprising a nonmagnetic substrate coated with a magnetic layer. The use of such an iron oxide magnetic powder allows the viscosity of the coating to be lowered, provides excellent coating characteristics, excellent surface characteristics and satisfactory electromagnetic conversion characteristics (Column 2, lines 1-6, 22-25, and 55-68).

Accordingly, it would have been obvious to one having ordinary skill in the art to replace the acicular chromium oxide in the lower layer of the magnetic recording medium taught by Munch et al. with a $\gamma\text{-Fe}_2\text{O}_3$ having a small crystallite size (*i.e., less than 30 nm*) given that Inoue et al. specifically teach that use of such particles in the lower layer of a magnetic recording medium allows the viscosity of the magnetic coating

to be lowered, provides excellent coating characteristics, excellent surface characteristics and satisfactory electromagnetic conversion characteristics (Column 2, lines 1-6, 22-25, and 55-68).

Response to Arguments

4. Applicants traverse the rejections under 35 U.S.C. 103(a) based on Munch et al. (US 5,641,355) in view of Inoue et al. (US 5,989,703) and argue that Inoue only discloses a crystallite size of less than 30nm and does not teach or suggest a crystallite size of less than 10nm and that the examples in Inoue are only directed to a crystallite size of 17 to 28. However, the Examiner maintains that Inoue does in fact teach the range claimed in the instant application. Moreover, the Applicants are reminded that the entire disclosure of a U.S. Patent having an earlier filing date can be relied upon to reject a claim and therefore there is no requirement that Inoue specifically disclose crystallite sizes less than 10 nm in an example.

Furthermore, the Examiner recognizes that Applicants can rebut a prima facie case of obviousness based on overlapping ranges by showing the criticality of the claimed range and hence the Examiner has reviewed the experimental data provided in the Specification of the instant application. However, the experimental data does not show that the particular range of crystallite size is critical or that the claimed range of crystallite size achieves unexpected results relative to the prior art range given that there are multiple variables that are manipulated to achieve improvements in the RF level. For example, Examples 1 and 2 use more than one type of magnetically soft

pigment, examples 3 varies the amount of the lubricant to achieve improvements in the coefficient of friction and in example 4 half the magnetically soft pigment is replaced by a non-magnetic powder. Hence, it is unclear that the improvements in RF levels are in fact a result of the criticality of the claimed range of crystallite sizes.

Applicants further argue that there is no motivation to combine the Munch and Inoue references given that there is no motivation to modify the lower layer taught by Munch with the particles taught by Inoue. However, in response, the examiner would like to point out that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, Inoue specifically teaches that the use of $\gamma\text{-Fe}_2\text{O}_3$ particles having a small crystallite size (i.e., less than 30 nm) in the lower layer of a magnetic recording medium allow the viscosity of the magnetic coating to be lowered, provide excellent coating characteristics, excellent surface characteristics and satisfactory electromagnetic conversion characteristics.

Allowable Subject Matter

5. Claims 1-5, 7-16, 18, 19, 21-23, 6, 27, 30, and 34 are allowed.

Conclusion

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).


A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sheeba Ahmed whose telephone number is (571)272-1504. The examiner can normally be reached on Monday-Friday from 9am to 5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Deborah Jones can be reached on (571)272-1535. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Sheeba Ahmed
Art unit 1773
September 3, 2004